

1. An optical device extending along a geometric axis comprising:
 - A) a final lens element formed from an initial lens element characterized by centered, rotational symmetry about an optical axis, said final lens element having at least one sawn planar face extending between image forming surfaces transverse to said geometric axis at each end of said final lens element, said at least one sawn planar face being parallel to and spaced from the geometric axis, and
 - B) a sheath surrounding said lens element.
2. An optical device as recited in claim 1 wherein said sheath has a cylindrical cross section.
3. An optical device as recited in claim 1 wherein said final lens element has at least two sawn planar faces that lie in intersecting planes.
4. An optical device as recited in claim 3 having four planar surfaces whereby said final lens element has a rectangular cross section.

5. An optical device as recited in claim 4 wherein each of
5 said sawn planar faces has an equal dimension whereby said
final lens element has a square cross section.
6. An optical device as recited in claim 1 said final lens
element is formed with a geometric axis that is parallel
to the optical axis in said initial lens element.
- 10 7. An optical device as recited in claim 1 wherein said final
lens element is inclusive of portions of said initial lens
element including said optical axis.
8. An optical device as recited in claim 7 wherein said
optical and geometric axes are parallel.
- 15 9. An optical device as recited in claim 7 wherein said
optical and geometric axes are coincident.
10. An optical device extending along a geometric axis
comprising:
A) a final lens system formed from a plurality of
adjoined initial lens elements having centered,
rotational symmetry about an optical axis, each of
said initial lens elements having a pair of spaced
image forming surfaces transverse to the optical and

geometric axes, said final lens assembly having at least one sawn planar face extending along the length thereof parallel to and spaced from the geometric axis, and

- B) a sheath surrounding said lens assembly thereby to support the lens system along the geometric axis.

11. An optical device as recited in claim 10 wherein said sheath has a cylindrical cross section.
12. An optical device as recited in claim 10 wherein said lens assembly has at least two sawn planar faces that lie in intersecting planes.
13. An optical device as recited in claim 12 having four planar surfaces whereby said lens assembly has a rectangular cross section.
14. An optical device as recited in claim 13 wherein each of said surfaces has an equal dimension whereby said final lens system has a square cross section.
15. An optical device as recited in claim 10 wherein said final lens system is formed with a geometric axis that is parallel to the optical axis.

- 10 16. An optical device as recited in claim 10 wherein said
 final lens assembly is inclusive of portions of said lens
 elements including said optical axis.
17. An optical device as recited in claim 16 wherein said
 optical and geometric axes are parallel.
- 15 18. An optical device as recited in claim 16 wherein said
 optical and geometric axes are coincident.
19. A method for making a lens system extending along a
 geometric axis comprising:
- A) constructing an initial lens system with a least one
20 lens element, each lens element having an optical
 axis and being characterized by a centered rotational
 symmetry about the optical axis and by image forming
 surfaces transverse to the optical axis,
- B) removing portions of the lens elements in the lens
25 system by sawing thereby to form sawn planar faces on
 the lens system parallel to the geometric axis
 whereby said lens system has a polygonal cross
 section.
20. A method as recited in claim 19 comprising the step of
 locating the polygonal lens system in a sheath.

21. A method as recited in claim 19 wherein said sawing includes position the lens system with respect to a saw and whereby portions of the lens element that are removed lie outside said portions of said lens elements inclusive of the geometric and optical axes whereby the final lens assembly includes both the optical and geometric axes.

22. A method as recited in claim 21 wherein said positioning enables the final lens system to have parallel optical and geometric axes.

23. A method as recited in claim 21 wherein said positioning enables the final lens system to have coincident optical and geometric axes.

24. A method as recited in claim 23 wherein said portions removal forms four intersecting sawn faces thereby to form the lens system with a rectangular cross section.

25. A method as recited in claim 23 wherein said portions removal forms four intersecting sawn faces thereby to form the lens system with a square cross section.